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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,543	01/05/2004	M. Merle Elloso	AM101281	2403

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EXAMINER	
KANTAMNENI, SHOBHA	
ART UNIT	**PAPER NUMBER**
1617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/751,543	ELLOSO ET AL.	
	Examiner	Art Unit	
	Shobha Kantamneni	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *23-25* is/are withdrawn from consideration.

5)☒ Claim(s) *NONE* is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/11/06,05/01/06,07/06/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

This application filed on 01/05/2004, claims benefit of 60/438,123 filed on 01/06/2003.

Claims 1-25 are pending.

Election/Restrictions

Claims 23-25 are withdrawn from consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions.

Applicant's election with traverse of invention Group I, drawn to a method of treating an autoimmune pathology, claims 1-22, and multiple sclerosis as the autoimmune pathology, i.e species, in the reply filed on June 18, 2007 is acknowledged herein. The traversal is on-the grounds(s) that the all pending claims involve a single inventive concept, and the inclusion of the method of selecting compounds which have estrogen receptor α agonist activity for treating multiple sclerosis and the method of use claims does not constitute any extra burden. These arguments have been considered, but not found persuasive. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation. Group II drawn to a method of selecting compounds useful for the treatment of multiple sclerosis has different modes of operation from the method of treating an autoimmune pathology. The grouped inventions are patentably distinct, a reference

which would anticipate, or make obvious, any inventions from groups I-II would not necessarily obviate or anticipate, the inventions in any other group. The searches for the inventions I-II are not co-extensive as indicated by the diverse nature of the subject matter. Thus, there is search burden, and examination burden on the office to examine both the groups.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-22 will be examined on the merits herein insofar as they read on the elected invention, and species.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention

Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, for scope of enablement because the specification, while being enabling for the particular compounds or agents for "a estrogen receptor α agonist activity", "for a selective estrogen receptor activity", and an agent that "decreases Nuclear Factor-kB activity" in the method of treating multiple sclerosis, does not reasonably provide enablement for any compounds in general having functional properties recited in the claims herein in the method of treating multiple sclerosis.

This recitations, an agent having "an estrogen receptor α agonist activity", an agent having "a selective estrogen receptor activity", and an agent that "decreases Nuclear Factor-kB activity", are seen to be merely functional language.

The instant specification fails to provide information that would allow the skilled artisan to fully practice the instant invention without undue experimentation. Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors:

(1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

The nature of the invention: The instant invention pertains to a method of treating an autoimmune pathology, multiple sclerosis, comprising administering any agent having "estrogen receptor α agonist activity".

The relative skill of those in the art: The relative skill of those in the art is high with respect to specific agent having estrogen receptor α agonist activity in the method of treating multiple sclerosis.

The breadth of the claims: The instant claims are deemed very broad since the broadest claims i.e., claims 1, and 12, read on any compounds having functional properties recited in the claims herein.

The amount of direction or guidance presented:

The guidance given by the specification as to what type of compounds having estrogen receptor α agonist activity would be effective for the treatment of multiple sclerosis is limited.

Functional language at the point of novelty, as herein employed by Applicants, is admonished in *University of California B. Eli Lilly* and Co. 43 USPQ2d 1398 (CAFC, 1997) at 1406: stating this usage does "little more than outline goal appellants hope the recited invention achieves and the problems the invention will hopefully ameliorate". The CAFC further clearly states that "[A] written description of an invention involving a chemical genus, like a description of a chemical species, requires a precise definition, such as by structure, formula, [or] chemical name, of the claimed subject matter sufficient to distinguish it from other materials" at 1405 (emphasis added), and that "It does not define any structural features commonly possessed by members of the genus that distinguish from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. A definition by function, as we have previously indicated, does not suffice to define the genus.." at 1406 (emphases added).

In the instant case the recitations, an agent having "an estrogen receptor α agonist activity", and an agent having "selective estrogen receptor activity" recited are purely functional distinction. Hence, this functional recitation read on any compounds that might have the recited functions. The specification merely provides those particular compounds for functional compounds in the method of treating multiple sclerosis. Page

2, lines 2-14 of the instant specification herein gives some examples of SERMS that can be employed in the method herein. However, the only examples provided are with the SERMs/TSEs raloxifene and Compound A, and ERα-selective agonist PPT. See pages 9-14 of instant specification.

Thus, Applicants functional language at the points of novelty fails to meet the requirements set forth under 35 U.S.C. 112, first paragraph. Claims employing functional language at the exact point of novelty, such as Applicants', neither provide those elements required to practice the inventions, nor "inform the public during the life of the patent of the limited of monopoly asserted" (Genera Electric Company v. Wabash Appliance Corporation et al. 37 USPQ at 468 (US Supreme Court 1938)).

The predictability or unpredictability: The instant claimed invention is highly unpredictable as discussed below:

In the instant case, the instant claimed invention is highly unpredictable since one skilled in the art cannot fully describe genus, visualize or recognize the identity of the members of the genus, by structure, formula, or chemical name, of the claimed subject matter, as discussed above in *University of California B. Eli Lilly and Co*. Hence, in the absence of fully recognizing the identity of the members of genus herein, one of skill in the art would be unable to fully predict possible physiological activities of any compounds having claimed functional properties in the method herein. Different agents having estrogen receptor α agonist activity have different chemical structures and are expected to behave in different manners, evidence that the level of skill in this art is low

relative to the difficulty of the task of determining a suitable compound having estrogen receptor α agonist activity for the treatment of multiple sclerosis.

Moreover, one of skill in the art would recognize that it is highly unpredictable in regard to therapeutic effects, and side effects, especially serious toxicity that may be generated by drug-drug interactions when and/or after administration of any compounds represented by functions which may encompass more than a thousand compounds. See text book Goodman & Gilman's The Pharmacological Basis of Therapeutics" regarding possible drug-drug interactions (9th ed 1996) page 51 in particular. This book teaches that "The frequency of significant beneficial or adverse drug interactions is unknown" (see the bottom of the left column of page 51) and that "Recognition of beneficial effects and recognition of and prevention of adverse drug interactions require a thorough knowledge of the intended and possible effects of drugs that are prescribed" and that "The most important adverse drug-drug interactions occur with drugs that have serious toxicity and a low therapeutic index, such that relatively small changes in drug level can have significant adverse consequences" (see the right column of page 51) (emphases added). In the instant case, in the absence of fully recognizing the identity of the members genus herein, one of skill in the art would not be able to fully predict possible adverse drug-drug interactions occurring with any compounds having claimed functional properties in the method herein to be administered to a host. Thus, the teachings of the book clearly support that the instant claimed invention is highly unpredictable.

The presence or absence of working examples and the quantity of experimentation necessary:

As discussed above, only those particular compound for each kind of functional compounds employed in the method herein in working examples is disclosed in the specification. See pages 9-14 of instant specification. Thus, the evidence in the examples is not commensurate in scope with the claimed invention. See MPEP 716.02(d).

Thus, the specification fails to provide sufficient support of the broad use of any compounds having those functions recited in the instant claims. As a result, necessitating one of skill to perform an exhaustive search for the embodiments of any compounds having those functions recited in the instant claims suitable to practice the claimed invention.

Genentech, 108 F.3d at 1366, states that "a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "[p]atent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Glasbrook (WO 96/05823, PTO-1449).

Glasbrook discloses a method of treating an autoimmune pathology, multiple sclerosis in human i.e male and female, comprising administering SERM, raloxifene. It is disclosed that Raloxifene can be administered by oral, intramuscular, intravenous or transdermal routes. Administration to non-human, rodents is also disclosed. See abstract; page 4, lines 13-24; page 8; page 11 ; claims 1-5, pages 13-14. Raloxifene is administered in an amount of 50-200 mg/day by oral route. See page 12, lines 21-23. See Cellular Immunology 173, page 56, 1996, where raloxifene is disclosed as SERM.

Regarding the recitation's "in an amount sufficient to decrease production of TH-1 and/or TH-2 cytokines", as in claims 1-22, the specification on page 8, lines 19-21 recites that, "an amount effective to decrease production of TH-1 and/or TH-2 cytokines refers to an amount effective, at dosages and for periods of time necessary, to achieve the desired result of treating autoimmune pathology". Thus, since Glasbrook discloses that administration of raloxifene treats autoimmune pathology, multiple sclerosis, the dosages disclosed by Glasbrook decrease production of TH-1 and/or TH-2 cytokines as in instant claims.

Further, regarding the recitations the agent when administered decreases production of TH-1, and/ TH-2 cytokines, decrease the Nuclear Factor –kB activity etc in instant claims, 1-22, it is pointed out that administration of SERM, raloxifene inherently

decreases production of TH-1, and/ TH-2 cytokines etc., and inherently decrease the Nuclear Factor –kB activity etc.

Thus, Glasbrook anticipate instant claims 1-22.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Tuesday-Thursday, 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, Ph.D can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni, Ph.D
Patent Examiner
Art Unit : 1617

SREENI PADMANABHAN
SUPERVISORY PATENT EXAMINER